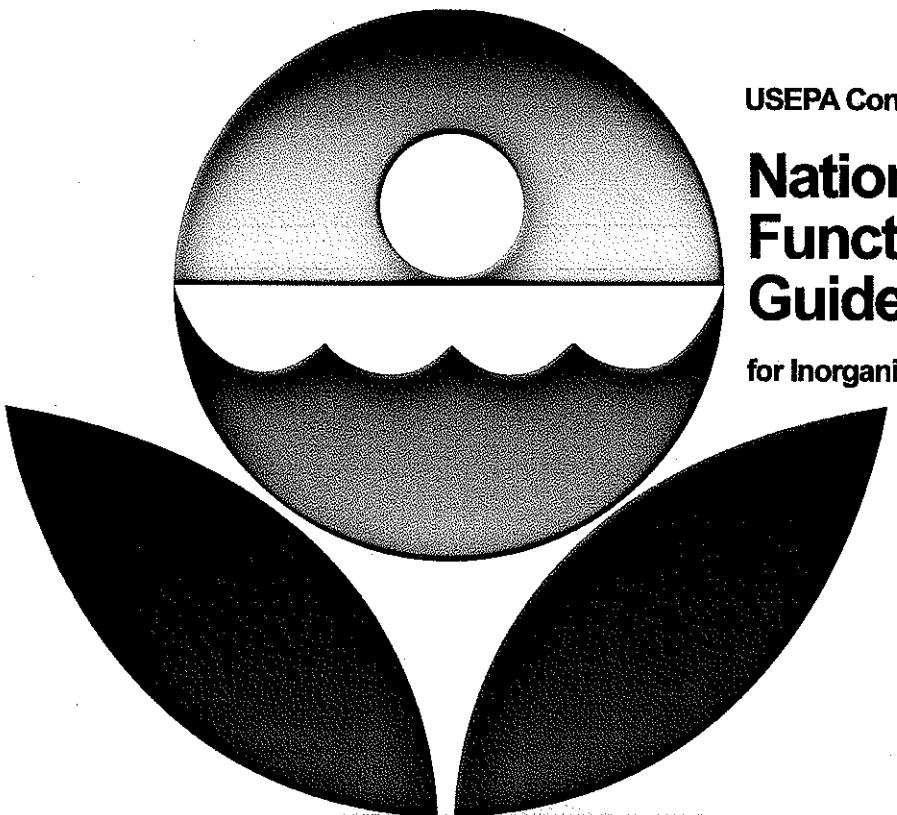


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National Functional Guidelines

for Inorganic Superfund Data Review

NOTICE

The policies and procedures set forth here are intended as guidance to the United States Environmental Protection Agency (hereafter referred to as USEPA) and other governmental employees. They do not constitute rule making by USEPA, and may not be relied upon to create a substantive or procedural right enforceable by any other person. The Government may take action that is at variance with the policies and procedures in this manual.

This document can be obtained from the USEPA's Contract Laboratory Program (CLP) Web site at:

<http://www.epa.gov/superfund/programs/clp/guidance.htm>

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Calculations for ICP-AES**Aqueous/Water Samples by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES):**

The concentrations determined in the digestate are to be reported in units of $\mu\text{g/L}$:

$$\text{Concentration } (\mu\text{g/L}) = C \times \frac{V_f}{V} \times DF$$

Where,

- C = Instrument value in $\mu\text{g/L}$ (The average of all replicate exposures.)
- V_f = Final digestion volume (mL)
- V = Initial aliquot amount (mL)
- DF = Dilution Factor

Soil/Sediment Samples by ICP-AES:

The concentrations determined in the digestate are to be reported on the basis of the dry weight of the sample, in units of mg/kg:

$$\text{Concentration (drywt.) (mg/kg)} = C \times \frac{V_f}{W \times S} \times DF / 1000$$

Where,

- C = Instrument value in $\mu\text{g/L}$ (The average of all replicate exposures).
- V_f = Final digestion volume (mL)
- W = Initial aliquot amount (g)
- S = % Solids/100 (see Exhibit D - Introduction to Analytical Methods, Section 1.6).
- DF = Dilution Factor

Adjusted Method Detection Limit (MDL)/Adjusted Contract Required Quantitation Limit (CRQL) Calculation:

To calculate the adjusted MDL or adjusted CRQL for aqueous/water samples, substitute the value of the MDL ($\mu\text{g/L}$) or CRQL ($\mu\text{g/L}$) into the "C" term in the equation above.

Calculate the adjusted MDL or adjusted CRQL for soil/sediment samples as follows:

$$\text{Adjusted Concentration (mg/kg)} = C \times \frac{W_M}{W \times S} \times \frac{V_f}{V_M} \times DF$$

Where,

- C = MDL or CRQL (mg/kg)
- W_M = Minimum method required aliquot amount (g) (1.00 g or 0.50 g)
- W = Initial aliquot amount (g)
- V_M = Method required final sample digestion volume (mL) (100 mL or 50 mL)
- V_f = Final digestion volume (mL)
- S = % Solids/100 (see Exhibit D - Introduction to Analytical Methods, Section 1.6).
- DF = Dilution Factor

Wipe/Filter Mass:

$$\text{Mass } (\mu\text{g}) = C \times V_f \times DF / 1000$$

Where,

C = Instrument value in $\mu\text{g/L}$ (The average of all replicate exposures).

V_f = Final digestion volume (mL)

DF = Dilution Factor